Title (en)

Method and apparatus for diffusing zinc into groups III-V compound semiconductors crystals

Title (de)

Verfahren und Einrichtung zur Dotierung von Zink in III-V zusammengesetzen Halbeliterkristallen

Title (fr)

Methode et appareillage pour la diffusion de zinc dans des cristaux de semiconducteur composé III-V

Publication

EP 0977247 A3 20050112 (EN)

Application

EP 99114607 A 19990726

Priority

JP 21395498 A 19980729

Abstract (en)

[origin: EP0977247A2] An LPE (Liquid Phase Epitaxy) apparatus is diverted to a Zn-diffusion apparatus for diffusing Zn into III - V group compound semiconductor. The Zn-diffusion apparatus comprises a base plank extending in a direction, having a wafer-storing cavity for storing an object wafer and an exhaustion hole for exhaling gases, a slider having a frame and a cap plate for attaching to or detaching from the frame, the frame having serially aligning M rooms with an open bottom and a rack being separated from each other by (M-1) partition walls, a manipulating bar for sliding the slider upon the base plank forward or backward in the direction, a tube for enclosing the base plank and the slider and for being capable of being made vacuous, a heater surrounding the tube for heating the slider, each rack of the rooms being allocated with a Zn-diffusion material and a V element material (or a non-doped capping wafer) in turn for aligning the rooms into repetitions of a V element room and a diffusion room. The V element room or the capping wafer covers and protects the object wafer during the heating step. During the diffusion step, the diffusion room covers the object wafer for diffusing Zn into the wafer. <IMAGE>

IPC 1-7

H01L 21/00; C30B 19/00

IPC 8 full level

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CPC (source: EP KR US)

H01L 21/22 (2013.01 - KR); **H01L 21/2233** (2013.01 - EP US); **H01L 21/67109** (2013.01 - EP US)

Citation (search report)

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DOCDB simple family (application)

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